REMARKS

Figs. 8, 10 and 12 of the specification have been amended to incorporate SEQ ID NOs.

Pursuant to the requirements of 37 C.F.R. §§ 1.821-1.825, Applicants submit the enclosed Sequence Listing and computer readable form (CRF). The amino acid sequences disclosed in the specification, claims, and drawings may be found in computer readable form in file 010272.txt on the enclosed diskette and are presented in the paper copy of the Sequence Listing, also enclosed.

Applicants hereby certify that the information recorded in computer readable form (CFR) supplied on the enclosed diskette as file 010272.txt is identical to the written Sequence Listing. The material presented in computer readable form is not new matter because it presents sequences the same as those disclosed in the specification, as filed.

The required copy of the "Notification of Defective Response" is also enclosed.

Applicants believe that the requirements of 37 C.F.R. §§ 1.821-1.825 have been met.

Respectfully submitted,

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MARKED-UP VERSION OF THE SPECIFICATION

On page 4, starting at line 9, please delete and replace the current version of the paragraph, with the following replacement paragraph:

This object is achieved by the provision of a DNA sequence which exhibits at least a 70% homology to the sequence **(SEQ ID NO: 13)** as shown in Fig. 12, and which codes for a polypeptide having the biological activity of the enzyme amorphadiene synthase.

On page 9, starting with "Fig. 8", please delete and replace the current version of the paragraph, with the following replacement paragraph:

Fig. 8: Nucleotide sequence **(SEQ ID NO: 9)** and deduced amino acid sequence **(SEQ ID NO: 10)** of the probe (538 bp) generated by PCR with primers A and B.

On page 9, starting with "Fig. 10", please delete and replace the current version of the paragraph, with the following replacement paragraph:

Fig. 10: Nucleotide sequence **(SEQ ID NO: 11)** and deduced amino acid sequence **(SEQ ID NO: 12)** of a positive clone (amorphadiene synthase encoding gene) isolated from the cDNA library of induced A.annua. The sequence **(SEQ ID NO: 11)** is flanked with EcoRI (NotI) adapters (Gibco BRL).

On page 10, starting with "Fig. 12", please delete and replace the current version of the paragraph, with the following replacement paragraph:

Fig. 12: Nucleotide sequence **(SEQ ID NO: 13)** and deduced amino acid sequence **(SEQ ID NO: 14)** of the amorphadiene synthase encoding gene, between start and stop codon (flanked by NcoI and BamHI sites, respectively), obtained by PCR with primers C and D.

On page 17, starting at line 1, please delete and replace the current version of the paragraph, with the following replacement paragraph:

5'-pGTCGACGCGGCCGCG-3' **(SEQ ID NO: 1)**

On page 17, starting at line 2, please delete and replace the current version of the paragraph, with the following replacement paragraph:

3'-CAGCTGCGCCGGCGCTTAA-OH-5' **(SEQ ID NO: 2)**

On page 17, starting at line 33 and bridging page 18 and ending at line 9, please delete and replace the current version of the paragraph, with the following replacement paragraph:

For functional expression the cDNA clone was subcloned in frame into the expression vector pET lld (Stratagene). To introduce suitable restriction sites for subcloning, the gene was amplified by PCR using a sense primer (primer C) 5'-GTCGACAAACC**ATGG**CACTTACAGAA G-3' **(SEQ ID NO: 3)** (introducing a NcoI site at the start codon **ATG**) and an anti-sense primer (primer D):

5'-GGATGGATCC**TCA**TATACTCATAGGATAAACG-3' **(SEQ ID NO: 4)** (introducing a BamHI site directly behind the stop codon **TGA**). The PCR reaction was performed under standard conditions. After digestion with BamHI and NcoI, the PCR product (Fig. 12) and the expression vector pET lld were gel purified and ligated together to yield a construct as revealed in Fig. 11.

On page 20, starting at line 9, please delete and replace the current version of the paragraph, with the following replacement paragraph:

Analogous to EXAMPLE 3, suitable restriction sites for subcloning were introduced by using PCR with a sense primer (primer G) 5'-GA GGA TCC **ATG** TCA CTT ACA GAA-3' **(SEQ ID NO: 5)** (introducing a BamHI site preceding the start codon ATG) and an anti-sense primer (primer H) 5'-AT GGA TCC **TCA** TAT ACT CAT AGG A-3' **(SEQ ID**

NO: 6) (introducing a BamHI site directly behind the stop codon TGA). After digestion with BamHI the PCR product and the plant-expression cassette pLV399 were gel purified and ligated to provide the gene encoding amorpha-4, 11-diene synthase with the cauliflower mosaic virus 35S promoter and a nopaline synthase transcription terminator. The plant-expression casette pLV399 is a pUC 19 vector (Yanisch-Perron, C. et al., Gene 33, 103-119 (1985)) in which the multiple cloning site (polylinker) is replaced by a CaMV 35 S promoter BamHI fused to a nos-tail (terminator) flanked by the 'unique' sites; EcoRI, KpnI, XhoI, and a HindIII site downstream from the promoter and EcoRI, XhoI, PstI, SphI, KpnI, HindIII upstream from the terminator. The orientation of the amorpha-4, 11-diene encoding gene in pLV399 was checked by restriction analysis with PstI and NdeI. After partial digestion of this construct with KpnI the amorpha-4, 11-diene encoding gene flanked by the 35S promotor and nos terminator was ligated into the KpnI digested binary vector pCGN1548.

On page 22, starting at line 29 and bridging page 23 and ending at line 3, please delete and replace the current version of the paragraph, with the following replacement paragraph:

For functional expression the cDNA clone was subcloned into the inducible expression vector pYES2 (episomal vector, Invitrogen) and the constitutive expression vector (integrating the gene construct into the genome) pGAPZ A (Invitrogen). To introduce suitable restriction sites for subcloning, the gene was amplified by PCR using a sense primer (primer E) 5'-CGA GAA TTC **ATG** TCA CTT ACA G-3' **(SEQ ID NO: 7)** (introducing a ExoRI site preceding the start codon **ATG**) and an anti-sense primer (primer F) 5'-GGAT CTC GAG **TCA** TAT ACT CAT-3' **(SEQ ID NO: 8)** (introducing a BamHI site directly behind the stop codon

TGA). Subcloning of the PCR product into pYES2 and pGAPZ A was done in a way analogue to Example 3.